

MCAT

FULL LENGTH PAPER-6

AS PER UHS PATTERN

Total MCQs: 220

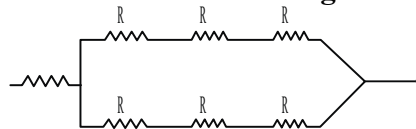
Max. Marks: 1100

Time Allowed: 150 Minute

PHYSICS

- Q.1 Branch of physics which deals with properties of fundamental particle is called?**
A) Molecular physics C) Astrophysics
B) Space physics D) High energy physics
- Q.2 Which of following is not an inter disciplinary areas of physics?**
A) Geo physics C) Astro physics
B) Bio physics D) Physics of solids
- Q.3 The metastable state in helium atom is**
A) 20.66 electron volt C) 18.70 electron volt
B) 20.61 electron volt D) 1.96 electron volt
- Q.4 The pumping medium in helium (80%) – neon (20%) laser is**
A) Helium C) Electrostatic field
B) Neon D) Both “A” and “C”
- Q.5 Conductors that lose all their resistance at low temperature are**
A) Semi-conductors C) Insulators
B) Good conductors D) Super conductors
- Q.6 If unit of ML are doubled than unit of K.E will become:**
A) 8 times C) 16 times
B) 4 times D) 2 times
- Q.7 Let us say, F_1 is the magnitude of the force exerted on sun by earth and F_2 is the magnitude of force exerted on earth by sun then**
A) $F_1 > F_2$ C) $F_1 = F_2$
B) $F_1 < F_2$ D) $F_1 = 0$
- Q.8 An electron is moving with velocity 10^7 m/s in a magnetic field 10 web.m^{-2} parallel to it. The magnetic force act on it is**
A) Zero C) $1.6 \times 10^{-19} \text{ N}$
B) $1.6 \times 10^7 \text{ N}$ D) $1.6 \times 10^{-11} \text{ N}$
- Q.9 Five resistors each of $1/5\Omega$. The minimum resistance he can obtain is**
A) $1/50\Omega$ B) $1/25\Omega$
C) $1/10\Omega$ D) none
- Q.10 In young's double slit experiment the width of dark and bright fringes are**
A) Different C) Zero
B) Equal D) Variable
- Q.11 A body of man 1 Kg is suspended from ceiling of an elevator moving up with an acceleration g its apparent weight in elevator will be:**
A) 9.8 N C) 19.6 N
B) 39 N D) None of these
- Q.12 Co-efficient of viscosity of liquid does not depend upon:**
A) Density C) Temp
B) Pressure D) Nature of liquid
- Q.13 Cause of viscosity in gases is:**
A) Cohesive forces C) Adhesive forces
B) Diffusion D) Conductivity
- Q.14 Cause of viscosity in liquid is:**
A) Diffusion C) Adhesive forces
B) Gravitational forces D) Cohesive forces
- Q.15 The level of water in a tank is 5 m high. A hole of area 1 cm^2 is made is the bottom of tank. The rate of leakage of water from hole is $g = 10 \text{ msec}^{-2}$**
A) $10^{-3} \text{ m}^3/\text{sec}$ C) $10^4 \text{ m}^3/\text{sec}$
B) $10 \text{ m}^3/\text{sec}$ D) $10^2 \text{ m}^3/\text{sec}$

- Q.30** A certain force increases the length of a wire by 1mm. The force required to increase its length by 2mm is:
 A) 2F
 B) 8F
 C) 4F
 D) 16F
- Q.31** In hot summer noon of June or July, freezers do no work properly because
 A) $T_1 \gg T_2$
 B) $T_1 - T_2$ is very small
 C) T_2/T_1 is very high
 D) None of these
- Q.32** A flask contains oxygen and hydrogen at 27°C . Find ratio of K.E of two gases:
 A) 1:2
 B) 1:4
 C) 2:1
 D) 1:1
- Q.33** A wire of resistance R is stretched to three times its length its new resistance will be
 A) 3 R
 B) R
 C) $R/3$
 D) 9 R
- Q.34** During the flow of fluid when streamlines are forced closer together
 A) Flow is turbulent
 B) Pressure is high
 C) Speed is high
 D) Both "A" and "C"
- Q.35** At given temp which of following gases possesses max rms velocity of molecule:
 A) H_2
 B) N_2
 C) O_2
 D) CO_2
- Q.36** Genetic mutations are engineered by
 A) Intense radioactivity
 B) Moderate level radioactivity
 C) Extremely low level radioactivity
 D) None of these
- Q.37** A resistance of 6 ohm is connected in series with another resistance of 4 ohm across a battery of 20V. The P.D across 6 ohm resistor is:
 A) 3 V
 B) 9 V
 C) 6 V
 D) 12 V
- Q.38** The effective resistance of network shown in fig:



- A) 4R
 B) 10 R
 C) 2 R
 D) $5 R/2$
- Q.39** The colour of light emitted in He – Ne LASER is
 A) Green
 B) Yellow
 C) Blue
 D) None of these
- Q.40** Force between two long straight parallel wires is F. If current in one of them is doubled the force between them will be:
 A) 2 F
 B) $2\sqrt{2}F$
 C) $\sqrt{2}F$
 D) 4 F
- Q.41** The magnetic field S in tesla within a solenoid having P turns per meter and carrying current F ampere is:
 A) $\mu_0 PF$
 B) $\mu_0 F^2S$
 C) $\mu_0 SF$
 D) $\mu_0 PF^2$
- Q.42** Voltage applied across an X-ray tube is nearly:
 A) 10 V
 B) 10^4 V
 C) 100 V
 D) 10^6 V
- Q.43** When an element emits a beta particle then the daughter element formed has
 A) One more proton
 B) Two more proton
 C) One less proton
 D) Both "A" and "B"
- Q.44** What are correct description of γ - ray and a β -particle:

| γ -rays | β -rays |
|------------------------------|---------------------------|
| A) Light speed electron | Electromagnetic radiation |
| B) Electromagnetic radiation | Helium +4 nucleus |
| C) Electromagnetic radiation | High speed electron |
| D) High speed electron | Helium -4 nucleus |

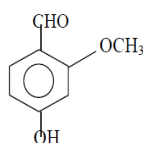
CHEMISTRY

- Q.45** Almost all the amino acids found in living organisms are
 A) α -Amino acids
 B) β -Amino acids
 C) γ -Amino acids
 D) All of these
- Q.46** The general formula of starch is
 A) $(\text{CH}_2\text{O})_n$
 B) $\text{C}_n\text{H}_{2n}\text{O}$
 C) $(\text{C}_6\text{H}_{10}\text{O}_5)_n$
 D) $(\text{C}_6\text{H}_{12}\text{O}_6)_n$
- Q.47** All of the following are food factors except
 A) Proteins
 B) Lipids
 C) Carbohydrates
 D) Nucleic acids
- Q.48** The octapeptide contains number of peptide linkages
 A) Six
 B) Seven
 C) Eight
 D) Nine
- Q.49** Complete hydrolysis of cellulose gives
 A) Fructose
 B) α -Glucose
 C) Ribose
 D) β -Glucose
- Q.50** RNA contains
 A) Ribose sugar and thymine
 B) Ribose sugar and uracil
 C) Deoxyribose sugar and uracil
 D) Deoxyribose sugar and thymine
- Q.51** Which of the following statement is incorrect
 A) PVC is thermoplastic and bakelite is thermosetting polymer
 B) Starch is branched and cellulose is unbranched polysaccharide
 C) Mg^{+2} is activator for carbonic anhydrase and Zn^{+2} is for phosphatase
 D) Albumin is simple and peptones is derived protein
- Q.52** The yellow colour in photochemical smog is due to presence of
 A) Dinitrogen oxide
 B) Chlorine gas
 C) Nitrogen dioxide
 D) Chlorine dioxide
- Q.53** Nutrient leach is due to
 A) Drying of soil
 B) Acidification of soil
 C) Combustion of soil
 D) Neutralization of soil
- Q.54** If 1.5 moles of oxygen combine with Al to form Al_2O_3 , then amount of Al used in the reaction is
 A) 27 g
 B) 54 g
 C) 40.5 g
 D) 81 g
- Q.55** The simplest formula of a compound containing 50% element 'A' ($A_r = 10\text{amu}$) and 50% element 'B' ($A_r = 20\text{amu}$) is
 A) AB
 B) AB_2
 C) A_2B
 D) A_2B_2
- Q.56** Slope of the plot between PV and P at constant temperature is
 A) $\frac{1}{2}$
 B) Zero
 C) 1
 D) $1/\sqrt{2}$
- Q.57** Molecules of NaCl can exist in the _____ state.
 A) Solid
 B) Aqueous
 C) Molten
 D) Vapour
- Q.58** Which of the following set of quantum numbers is not allowed
 A) $n = 3, l = 2, m = 0$
 B) $n = 3, l = 2, m = -2$
 C) $n = 3, l = 3, m = -3$
 D) $n = 3, l = 0, m = 0$
- Q.59** A neutral atom will have lowest ionization energy, when its configuration is
 A) $1s^2 2s^2 2p^6 3s^1$
 B) $1s^2 2s^2 2p^5$
 C) $1s^2$
 D) $1s^2 2s^2 2p^1$
- Q.60** Which of the following molecules do not possess dipole moment
 A) CO
 B) SF_6
 C) SO_2
 D) CHCl_3
- Q.61** Type of hybridization of Copper in $[\text{Cu}(\text{NH}_3)_4]\text{Cl}_2$ if it is square planner
 A) sp^3
 B) sp^2
 C) dsp^2
 D) d^2sp^3
- Q.62** One of the followings is always exothermic
 A) Enthalpy of formation
 B) Enthalpy of neutralization
 C) Enthalpy of atomization
 D) Enthalpy of solution

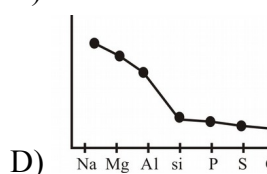
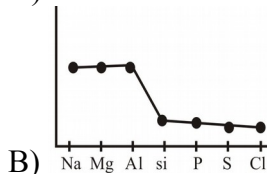
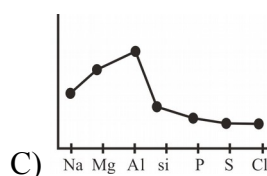
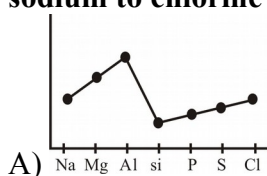
- Q.63** The enthalpy of formation of which compound is measured directly
 A) CO C) Al₂O₃
 B) CCl₄ D) MgO
- Q.64** The number of moles of NaCl present in 50cm³ of 0.1M aqueous solution is
 A) 0.05 C) 0.005
 B) 0.001 D) 0.1
- Q.65** The concentration unit which is not temperature independent
 A) Molarity C) Molality
 B) Mole fraction D) Mole percent
- Q.66** The cell reaction of the galvanic cell $\text{Cu}_{(s)} | \text{Cu}^{2+}_{(aq)} || \text{Hg}^{2+}_{(aq)} | \text{Hg}_{(l)}$ is
 A) $\text{Hg} + \text{Cu}^{2+} \rightarrow \text{Hg}^{2+} + \text{Cu}$ C) $\text{Hg} + \text{Cu}^{2+} \rightarrow \text{Cu}^{+} + \text{Hg}^{+}$
 B) $\text{Cu} + \text{Hg} \rightarrow \text{CuHg}$ D) $\text{Cu} + \text{Hg}^{2+} \rightarrow \text{Cu}^{2+} + \text{Hg}$
- Q.67** Given the two following half reactions,
 $\text{Ni}^{2+}_{(aq)} + 2e^{-} \rightarrow \text{Ni}_{(s)}$ $E^{\circ} = -0.25 \text{ V}$, $\text{Hg}^{2+}_{(aq)} + 2e^{-} \rightarrow \text{Hg}_{(l)}$ $E^{\circ} = +0.86 \text{ V}$
 Calculate E° for the following reaction
 $\text{Hg}^{2+}_{(aq)} + \text{Ni}_{(s)} \rightarrow \text{Ni}^{2+}_{(aq)} + \text{Hg}_{(l)}$
 A) -1.11 V C) +0.61 V
 B) +1.11 V D) -0.61 V
- Q.68** Which one of the following is a buffer solution
 A) Mixture of NH₄OH and HCl C) mixture of HCl and NaCl
 B) Mixture of NaOH and Ca(OH)₂ D) mixture of H₂SO₄ and CH₃COOH
- Q.69** The trend in the densities of elements of Group III-A of the periodic table is
 A) A gradual decrease C) First decrease then increase
 B) A gradual increase D) First increase then decrease
- Q.70** The number of electron pairs received by central metal atom in complexes is the coordination number of the central metal atom. In this complex [Co(C₂O₄)₃] has coordination number equal to
 A) 2 C) 6
 B) 4 D) 0
- Q.71** When aqueous solutions of KCN and Fe(CN)₂ are mixed together, we get
 A) Fe²⁺, K⁺, CN⁻ C) [Fe(CN)₆]⁻⁴ and K⁺
 B) Fe²⁺, K⁺ D) Fe²⁺, [K(CN)₆]⁻⁵
- Q.72** Liquid ammonia consists of
 A) OH⁻ C) NH₄⁺ and OH⁻
 B) NH₃ D) H⁺
- Q.73** In the absence of air NO₂ dissolves in water to form
 A) Nitric and nitrous acid C) Nitric acid only
 B) O₂ gas and nitrous acid D) All of these
- Q.74** The fertilizer that contains 33-33.5% nitrogen in it is
 A) Ammonia C) Ammonium nitrate
 B) Urea D) None of these
- Q.75** Nitric acid is manufactured industrially by
 A) Catalytic oxidation of ammonia C) Direct combustion of N₂ and O₂
 B) Heating KNO₃ with concentrated H₂SO₄ D) None of these
- Q.76** The Process by which free radicals are produced is
 A) Homolytic fission C) Hydrolytic fission
 B) Heterolytic fission D) Chemolytic fission
- Q.77** Which one of the following can act as an electrophile
 A) SO₃ C) CH₃⁺
 B) CO₂ D) All of these
- Q.78** During chlorination of methane, if chlorine is used in excess, then major product is
 A) CH₃Cl C) CHCl₃
 B) CH₂Cl₂ D) CCl₄
- Q.79** Addition of which reagent to unsymmetrical alkenes obeys Markownikoff's rule
 A) HCl C) HOCl
 B) HCN D) All of these

- Q.80** Which statement is true about S_N2 reactions
- It is unimolecular reaction
 - Rate depends upon the formation of carbonium ion
 - Reaction is single step due to least steric hindrance
 - It is a bimolecular reaction because it occurs in two steps
- Q.81** The alkyl halide which is most reactive
- CH_3F
 - CH_3Cl
 - CH_3Br
 - CH_3I
- Q.82** Which of the following facts explains as to why p-nitrophenol is more acidic than phenol
- Negative inductive effect of nitro group
 - Greater resonance effect of p-nitrophenoxy group
 - Steric effect of bulky nitro group
- Select the correct answer using the codes given below
- 2 and 3
 - 1 and 2
 - 1 and 3
 - 2 alone
- Q.83** Isopropyl alcohol is obtained by reacting which of the following alkenes with concentrated H_2SO_4 followed by boiling with water
- 2-methylpropene
 - Isoprene
 - Ethylene
 - Propylene
- Q.84** The compound 'A' forms 'B' with sodium metal and again 'A' forms 'C' with PCl_5 while 'B' and 'C' form diethyl ether therefore A, B and C are
- $C_2H_5OH, C_2H_5Cl, C_2H_5ONa$
 - $C_2H_5OH, C_2H_5ONa, C_2H_5Cl$
 - $C_2H_5Cl, C_2H_5OH, C_2H_5ONa$
 - $C_2H_5ONa, C_2H_5Cl, C_2H_5OH$
- Q.85** The alcohol which readily gives nucleophilic substitution reaction
- Primary alcohols
 - Secondary alcohols
 - Tertiary alcohols
 - All give equally
- Q.86** Which of the following will not show haloform reaction
- C_6H_5CHO
 - CH_3CHO
 - CH_3COCH_3
 - $C_6H_5COCH_3$
- Q.87** The reagent with which both acetaldehyde and acetone react readily is
- Fehling solution
 - Sodium nitroprusside
 - 2,4-DNPH
 - Tollen's reagent
- Q.88** Fehling solution is composed of _____ complex
- Acidified Cupric Citrate
 - Alkaline Cupric Citrate
 - Ammonical $AgNO_3$ solution
 - Alkaline Cupric Tartarate
- Q.89** Which of the following amino acid has more than one chiral center
- -
 -
 -
- Q.90** Which is not correct in case of carboxylic acids
- They are polar molecules
 - They form H – bonds
 - They are stronger than mineral acids
 - They have higher b.p. than corresponding alcohols
- Q.91** Which compound reacts with its own oxidation product (an oxidation which involves no loss of carbon) to give a sweet smelling liquid
- Propanal
 - Propanone
 - Propanoic acid
 - Propan-1-ol
- Q.92** The pair of amino acids containing benzene ring in them
- Valine and Tryptophan
 - Threonine and Tyrosine
 - Phenyl alanine and Tyrosine
 - Isoleucine and Cysteine

- Q.93** Valine is a/an _____ amino acid
 A) Neutral C) Alkaline
 B) Acidic D) Amphoteric
- Q.94** Amino acids usually exists in the form of Zwitter ions. This means that they consist of
 A) The basic NH_2 group and acidic COOH group
 B) The basic NH_3^+ group and the acidic COO^- group
 C) Basic COO^- group and acidic NH_3^+ group
 D) No acidic or basic group as such
- Q.95** Which of the following is a basic amino acid
 A) Proline C) Tryosine
 B) Asparagine D) Arginine
- Q.96** Vanillin is a constituent of vanilla bean and has structure
 Which of the following reagent will not react with vanillin



- A) Br_2 in CCl_4 D) 2,4- Di nitro phenyl hydrazine
 B) Aqueous $\text{NaOH} + \text{I}_2$ C) $[\text{Ag}(\text{NH}_3)_2]^+$ (Tollens reagent)
- Q.97** The units for K_w of H_2O are
 A) $\text{moles} \cdot \text{dm}^{-3}$ C) $\text{moles}^2 \cdot \text{dm}^{-6}$
 B) $\text{moles}^{-2} \cdot \text{dm}^6$ D) $\text{moles}^{-2} \cdot \text{dm}^{-3}$
- Q.98** In the fuel cells
 A) A spontaneous reaction takes place C) No electrolyte is used
 B) H_2 is reduced to H_2O D) Poisonous products are formed
- Q.99** The half life of following first order reaction $\text{A} \rightarrow \text{B} + \text{C}$ is 10min. The concentration of A would be reduced to 12.5% of original concentration in
 A) 30 min C) 70 min
 B) 40 min D) 90 min
- Q.100** Identify the correct order in which the ionic radius of the following ions increases:
 (I) F^- (II) Na^+ (III) N^{3-}
 A) III, I, II C) II, III, I
 B) I, II, III D) II, I, III
- Q.101** Which sketch shows the variation in Electrical conductivity of the elements from sodium to chlorine



- Q.102** Element that shows exceptional behaviour among alkali metals
 A) Li C) Be
 B) Ba D) Na

ENGLISH

- Q.103** The stoic former generally led his civilian life as he had his military life, with simplicity and _____ dignity.
 A) Benevolent B) Informal C) Austere D) Aggressive
- Q.104** Although critics labeled Margret Thatcher's policies _____, she asserted that her ideas moved the United Kingdom forward.
 A) Autocratic B) Regressive C) Radical D) Democratic

| | | | | |
|------------|---------------|---------|--------------|-----------|
| PIONEER | JOHAR TOWN | MATRIC | FAISAL TOWN | TOWNSHIP |
| IQBAL TOWN | NISHTER BLOCK | SODIWAL | GULSHAN RAVI | GULBERG |
| OUTFALL | RAVI ROAD | SHADMAN | MUGHALPURA | CHAUBURJI |

| | | | | | | |
|------------|------------|------------|----------|------------|----------|-------|
| KASUR | GUJRANWALA | GUJRAT | SIALKOT | FAISALABAD | SARGODHA | JHANG |
| RAWALPINDI | ISLAMABAD | ABBOTTABAD | MIRPUR | PESHAWAR | OKARA | |
| SAHIWAL | BUREWALA | MULTAN | D.G KHAN | BAHAWALPUR | R.Y KHAN | |

Q.105 The fisherman grabbed at the fish but it _____ out of his grasp.

- A) Heaved B) Jerked C) Pushed D) Slithered

Q.106 By nature Toshiro was -----, given to striking up casual conversations with strangers he encountered at bus stops.

- A) Diffident B) Observant C) Reticent D) Gregarious

SPOT THE ERROR

In the first type of sentences, some segments of each sentence are underlined. Your task is to identify that underlined segment of the sentence, which contains the mistake that needs to be corrected.

Q.107 Initially, He devoted his attention to fish and making sketches of his companions in the new school.

- A) B) C) D)

Q.108 The next morning when the dowry was exhibited in the courtyard, the entire village was stunned by what they saw.

- A) B) C) D)

Q.109 And the total number of stars in the universe are probably something like the total number of grains of sand.

- A) B) C) D)

Q.110 Our English professor would like us spending more time in the laboratory practicing our pronunciation.

- A) B) C) D)

Q.111 The government has decided voting on the resolution now rather than next month.

- A) B) C) D)

Q.112 All the team members, except him, has insisted that the match be on time.

- A) B) C) D)

Directions:

In each question in the following, four alternative sentences are given. Choose the CORRECT one and fill the circle corresponding to that letter in the answer sheet.

Q.113 A) Nobody would be suspected to have stolen such books like I was carrying.
B) Nobody would be suspected to have stolen such books which I was carrying.
C) Nobody would be suspected of having stole such books which I was carrying.
D) Nobody would be suspected of having stolen such books as I was carrying.

Q.114 A) Today babies are born in hospitals in which there is little likelihood of them getting a disease.
B) Today babies are born in hospitals in which there is a little likelihood of their getting a disease.
C) Today babies are born in hospitals where there is little likelihood of their getting a disease.
D) Today babies are born in hospitals where there is a little likelihood of them getting a disease.

Q.115 A) We saw him getting out of the flying saucer.
B) We saw him get out of the flying saucer.
C) We saw him to get out of the flying saucer.
D) We saw him getting out of flying saucer.

Q.116 A) The facilities of the older hospital is as good or better than the new hospital.
B) The facilities of the older hospital are as good or better that the new hospital.
C) The facilities of the older hospital are as good as or better than the new hospital.
D) The facilities of the older hospital are as good as or better than those of the new hospital.

- Q.117** A) The director of this organization must know money management, selling, and able to satisfy the stockholders.
 B) The director of this organization must know how to manage money, selling his product, and be able to satisfy stockholders.
 C) The director of this organization must know how to manage money, sell his product, and satisfy the stockholders.
 D) The director of this organization must know money management, selling, the idea of being able to satisfy the stockholders.
- Q.118** A) A common cause of failure is a mistaken ambition.
 B) A mutual cause of failure is a mistaken ambition.
 C) A mutual cause of failures are mistaken ambition.
 D) A common cause of failure is a mistaking ambition.
- Q.119** A) The professor whom I respect recently, received tenure.
 B) The professor, which I respect, recently received tenure.
 C) The professor whose respect is as necessary as recently received tenure.
 D) The professor, whom I respect, recently received tenure.
- Q.120** A) Given training, workers can acquire the skills and interest in other jobs.
 B) Given training, workers can acquire the skills for and interest in other jobs.
 C) Given training, workers can acquire the skills and interest other jobs.
 D) Given training, workers can acquire the skills in and interest in other jobs.
- Q.121** A) He has great affinity in nature.
 B) He has great affinity with nature.
 C) He has great affinity by nature.
 D) He has great affinity at nature.
- Q.122** A) Do you stuff your head by things you do not understand.
 B) Do you stuff your head with things you do not understand.
 C) Do you stuff your head for things you do not understand.
 D) Do you stuff your head in things you do not understand.

Directions:

In each of the following question, four alternative meanings of a word are given. You have to select the nearest correct meaning of the given word and fill the appropriate Bubble / Circle on the MCQ Response Form.

- Q.123 MULCT**
 A) Cooperate B) Swindle C) Elucidate D) Dwindle
- Q.124 MYRIAD**
 A) Accolade B) Foreign aid C) Jeremiad D) Innumerable
- Q.125 MORASS**
 A) Grassland B) Fenland C) Moorland D) Wasteland
- Q.126 OBLITERATE**
 A) Desultory B) Penultimate C) Destroy desultory D) Inventory
- Q.127 OBSEQUIOUS**
 A) Fluttering B) Flattering C) Biting D) Bickering
- Q.128 ORTHODOX**
 A) Standard B) Orthotics C) Nonconformist D) Fervent
- Q.129 PALATABLE**
 A) Purchasable B) Portable C) Foul D) Welcome
- Q.130 PAMPASS**
 A) Plain B) Excessive care C) Moor land D) Waste land
- Q.131 PERFIDY**
 A) Conceit B) Deceit C) Concede D) Exceed

Q.132 ONEROUS

- A) Precious B) Honorable C) Strenuous D) Sagacious

BIOLOGY

Q.133 Which one is/are the characteristic of living organisms?

- A) Homeostasis C) Metabolism
B) Sensitivity D) All "A" "B" "C"

Q.134 Which one of the following always contains unsaturated fatty acids?

- A) Wax C) Oil
B) Lecithin D) Fat

Q.135 Peptide bond is formed by two groups which are:

- A) -COOH and -H C) -COOH and -R
B) -NH₂ and -H D) -COOH and -NH₂

Q.136 The branch of biology which deals with improvement of organisms for the human benefits:

- A) Ecology C) Eugenics
B) Ethology D) Euthenics

Q.137 It is the most abundant element in human body:

- A) Oxygen C) Carbon
B) Hydrogen D) Nitrogen

Q.138 Who carried out x-ray diffraction of DNA?

- A) Watson C) Rosalind Franklin
B) Crick D) Fredrick Miescher

Q.139 In ATP the pentose sugar is:

- A) Ribose C) Ribulose
B) Deoxyribose D) Glucose

Q.140 Which one is not a carbohydrate?

- A) Chitin C) Glycogen
B) Dextrin D) Methionine

Q.141 Lock & key model regarding the substrate and enzyme interaction was proposed in 1890 by:

- A) Emil Fischer C) Robert Koch
B) Koshland D) Louis Pasteur

Q.142 The basic units of enzymes are:

- A) Atom C) Amino acid
B) Cell D) Fatty acid

Q.143 The catalytic activity of enzymes are restricted to its:

- A) Binding site C) Activator
B) Catalytic site D) Active site

Q.144 Cell wall is secreted by which one of the following

- A) Nucleus C) Protoplasm
B) Cytoplasm D) Golgi apparatus

Q.145 Which types of ions are necessary for combination of ribosomal subunits?

- A) Mg⁺² C) K⁺
B) Na⁺ D) Ca⁺²

Q.146 Ribosome subunits 60S and 40S combine to form:

- A) 100S C) 70S
B) 80S D) 60S

Q.147 Lysosomes are originated from:

- A) Golgi apparatus C) Chloroplast
B) Mitochondria D) Centriole

Q.148 Which one of the following structure and function is mismatched?

- A) Nucleolus ____ ribosome production C) Golgi ____ glycolipid, glycoprotein
B) Ribosome ____ protein synthesis D) Microtubules ____ muscle contraction

Q.149 Which cell provides best opportunity to study lysosomes?

- A) Muscle cell C) Plant seedling cell
B) Nerve cell D) White blood cell

Q.150 Which component is present in prokaryotic cell?

- A) Nuclear envelope C) Vacuole
B) ER D) Ribosome

- Q.151 Which one is the size of Ribosomes in prokaryotic cell?**
A) 80s C) 60s
B) 70s D) 40s
- Q.152 What is the haploid number of chromosomes in frog?**
A) 26 C) 13
B) 16 D) 8
- Q.153 Sometimes viral DNA gets detached from the bacterial chromosome and lytic cycle starts, the process is named as:**
A) Prophage C) Induction
B) Lysogeny D) Provirus
- Q.154 *Hyphomicrobium* is an example of:**
A) Cocci C) Spiral shaped bacteria
B) Bacilli D) Tetrad
- Q.155 If single flagellum is present at one pole then bacterium is:**
A) Lophotrichous C) Monotrichous
B) Atrichous D) Amphitrichous
- Q.156 Which of the following are reproductive structures of *Rhizopus*?**
A) Ascospores C) Soredia
B) Zygosporangia D) Teliospores
- Q.157 Nervous system was first originated in:**
A) Leech C) Hydra
B) Ascaris D) Tapeworm
- Q.158 Tapeworm have no digestive system because:**
A) It absorbs digested food products C) It feeds only when young
B) It does not require nutrients D) It makes its own food
- Q.159 During photosynthesis the oxygen in glucose comes from:**
A) Water C) Oxygen in air
B) Both from water and carbon dioxide D) Carbon dioxide
- Q.160 Where does the energy-capturing reactions of photosynthesis occur?**
A) Plasma membrane C) Stroma
B) Cytoplasm D) Thylakoid
- Q.161 Chlorophyll is present:**
A) In the grana of chloroplasts C) In the stroma of chloroplasts
B) On the surface of chloroplasts D) Dispersed throughout the chloroplasts
- Q.162 Calvin cycle is:**
A) Photosynthesis C) Photorespiration
B) Glycolysis D) C3 pathway
- Q.163 In an ecosystem secondary consumers always occupy:**
A) 1st trophic level C) 3rd trophic level
B) 2nd trophic level D) 4th trophic level
- Q.164 Overall pattern of weather that prevails from year to year even century-to-century in a particular region is called:**
A) Environment C) Atmosphere
B) Climate D) Ecosystem
- Q.165 Cystic fibrosis patients lack a gene that codes for a trans membrane carrier of:**
A) Chloride ions C) Potassium ions
B) Sodium ions D) Calcium ions
- Q.166 DNA polymerase used in PCR is extracted from the bacterium:**
A) *Thermus terrestris* C) *Thermus aquaticus*
B) *Thermus indicus* D) *Thermus botani*
- Q.167 Children in the SCID syndrome are treated by:**
A) Chemotherapy C) In-vivo gene therapy
B) Ex- vivo gene therapy D) Antibiotics
- Q.168 Dideoxyribonucleoside triphosphates are used to terminate DNA synthesis at different site. Which method involves this procedure?**
A) Maxam-Gilbert method C) K.B. Mullis Method
B) Sanger method D) Gottlieb method

- Q.169** Blood group B phenotype contains anti-A antibodies in the serum and agglutinate any RBC with antigen:
 A) A C) O
 B) B D) None of these
- Q.170** Chances for a son or daughter in human birth are:
 A) 3:1 C) 1:1
 B) 1:3 D) Random
- Q.171** The relationship between alleles of the same gene occupying the same locus is:
 A) Co dominance C) Dominance
 B) Over dominance D) Epistasis
- Q.172** Gene pool consist of all alleles at all gene loci in all individuals of:
 A) Family C) Population
 B) Species D) Community
- Q.173** Heart of man is surrounded by a membrane called:
 A) Pleura C) Pericardium
 B) Diaphragm D) Cell membrane
- Q.174** Outlet valves of heart are called:
 A) Tricuspid valve C) Bicuspid valve
 B) Semi lunar valve D) Mitral valve
- Q.175** Myoglobin consists of how many polypeptide chain:
 A) 1 C) 3
 B) 2 D) 4
- Q.176** The process of respiration takes place at tissue level is called:
 A) Respiration C) Molecular respiration
 B) Cellular respiration D) Tissue respiration
- Q.177** Pus contains dead:
 A) Tissue cells C) White blood cells
 B) Red blood cells D) Platelets
- Q.178** It can be the organ of thermoregulation in humans:
 A) Liver C) Kidney
 B) Lungs D) Skin
- Q.179** Nitrogenous wastes are produced from breakdown of:
 A) Proteins & Nucleic acids C) Carbohydrates & Proteins
 B) Carbohydrates & Lipids D) Lipids & Nucleic Acids
- Q.180** Second ammonia molecule in urea cycle combines with:
 A) Citrulline C) Argininosuccinate
 B) Ornithine D) Arginine
- Q.181** The chief morphological and physiological unit of the nervous system is:
 A) Ganglion C) Reflex
 B) Neuron D) Synapse
- Q.182** The groups of ribosomes present in the cell body of the neuron, which are associated with rough endoplasmic reticulum are called:
 A) Meissner's corpuscles C) Nissl's granules
 B) Pacinian corpuscles D) Lysosome granules
- Q.183** Nerve impulse involves movement of ions across:
 A) Synapse C) Cell membrane
 B) Cell wall D) Axon
- Q.184** The mammalian forebrain is differentiated into the thalamus, limbic system and:
 A) Cerebellum C) Hippocampus
 B) Cerebrum D) Hypothalamus
- Q.185** Dwarfism in human beings is caused due to under-secretion of:
 A) Somatotrophin C) Thyrotrophin
 B) Corticotrophin D) Prolactin
- Q.186** Corpus luteum secretes the hormone:
 A) Testosterone C) Oxytocin
 B) Parathormone D) Progesterone

- Q.187** The disease diabetes insipidus is caused due to the under-secretion of a pituitary hormone called:
- A) Vasopressin
B) Glucagon
C) Insulin
D) Oxytocin
- Q.188** It acts on anterior pituitary as part of feedback mechanism:
- A) TRF
B) TSH
C) T3
D) T4
- Q.189** Placenta is established between fetal tissue and:
- A) Uterine tube
B) Uterus
C) Cervix
D) Vagina
- Q.190** During delivery, blood loss is minimized due to action of:
- A) Vasopressin
B) Prolactin
C) Oxytocin
D) Thyroxin
- Q.191** Between the seminiferous tubules are interstitial cells, which secrete:
- A) Oestrogen
B) Testosterone
C) Progesterone
D) Oxytocin
- Q.192** In seminiferous tubules repeated division of the cells of the germinal epithelium produces:
- A) Oogonia
B) Zoogonia
C) Primary spermatocyte
D) Spermatogonia
- Q.193** At the distal end, femur forms knee joint with the proximal end of two parallel bones called:
- A) Tibia & fibula
B) Radius & ulna
C) Carpals & metacarpals
D) Tarsal & metatarsal
- Q.194** Palatine is the bone of:
- A) Face
B) Cranium
C) Vertebra column
D) Pectoral girdle
- Q.195** The fusion of four posterior vertebrae present in the pelvic region form:
- A) Sacrum
B) Coccyx
C) Pelvis
D) Cage
- Q.196** The first two cervical vertebrae are:
- A) Atlas & sacrum
B) Lumbar & sacrum
C) Atlas & Axis
D) Lumbar & coccyx
- Q.197** The cell-mediated response involves:
- A) T-lymphocytes
B) B-lymphocytes
C) Plasma cells
D) Neutrophils
- Q.198** The antibodies are synthesized in the----- type of immunity:
- A) Active immunity
B) Passive immunity
C) Artificial Passive immunity
D) Naturally passive immunity
- Q.199** The biochemical composition of the heavy chains of the antibodies are:
- A) Glycoproteins
B) Proteins
C) Lipoproteins
D) Nucleo-histons
- Q.200** CD-4 receptor site is present on:
- A) T-Lymphocytes
B) B-Lymphocytes
B) Memory cells
D) Helper T cells
- Q.201** One, which may or may not be a protein molecule:
- A) Antibody
B) Antigen
C) Interferon
D) Enzyme
- Q.202** Which one of the following does not produce any enzyme?
- A) Oral cavity
B) Esophagus
C) Stomach
D) Jejunum
- Q.203** Which one is the correct sequence of enzyme, substrate and end product?
- A) Sucrase → Sucrose – Glucose and Galactose
B) Maltase → Maltose – Glucose and Galactose
C) Amino peptidase → Peptides – Amino acids
D) Trypsin → Protein---Polypeptides
- Q.204** Mucus is made up of:
- A) Actin and Myosin
B) Phospholipid
C) Unsaturated fat
D) Glycoprotein

Q.205 If we chew a piece of bread for a long time, it becomes sweet due to production of:

- A) Starch
- B) Maltose
- C) Glucose
- D) Glycogen

Q.206 Which one is true matching pair?

- A) Erypsin – Galactose
- B) Lipase – Lactose
- C) Renin – Protein
- D) Pepsin – Amino acid

Q.207 Gastrin helps in:

- A) Digestion of proteins
- B) Digestion of milk
- C) Maintains mucus in the stomach
- D) Stimulation of gastric juice production

Q.208 Bacteria that get their food from humans are:

- A) Saprophytic
- B) Parasitic
- C) Photosynthetic
- D) Chemosynthetic

Q.209 Which of the following medicine is used to relieve migraine?

- A) Lovastatin
- B) Griseofulvin
- C) Ergotone
- D) Penicillin

Q.210 *Tamarindus indica* is the common source of:

- A) Acetic acid
- B) Butyric acid
- C) Lactic acid
- D) Tartaric acid

Q.211 Term used for fused carpals is:

- A) apocarpous
- B) Syncarpous
- C) Monocarpellary
- D) Polycarpellaly

Q.212 In which stage of Aerobic respiration, 2 carbon molecule is completely oxidized to CO₂?

- A) Glycolysis
- B) Krebs cycle
- C) ETC
- D) Calvin cycle

Q.213 In respiratory chain, $\frac{1}{2} O_2$ is reduced by:

- A) Water
- B) Cytochrome 'a'
- C) Cytochrome 'a3'
- D) Coenzyme 'q'

Q.214 Which of the following is not used to obtain a protein product?

- A) PCR
- B) Genetic engineering
- C) Tissue culture
- D) Central dogma of gene expression

Q.215 What is niche of an organism in an ecosystem?

- A) Role played by many organisms in an ecosystem
- B) Role played by dead organisms in an ecosystem
- C) Role played by an organism in its ecosystem
- D) Role played by community of microorganisms in their ecosystem

Q.216 The comparative embryology of all vertebrates show development of:

- A) Gill pouches
- B) Hairs
- C) Scales
- D) Fins

Q.217 Which of the following is not involved in mechanical digestion?

- A) Oral cavity
- B) Bile
- C) Esophagus
- D) Stomach

Q.218 Sensory neurons connect:

- A) Sensory organs with CNS
- B) CNS with effectors
- C) Sensory organs with effectors
- D) Brain with spinal cord

Q.219 Regarding skeletal muscle structure, the area which contains only thick filaments:

- A) A-band
- B) I-band
- C) H-zone
- D) Z-line

Q.220 Nephron is blind-ended structure; blind end of nephron is represented by

- A) Bowman's capsule
- B) Distal convoluted tubule
- C) Loop of Henle
- D) Collecting tubule